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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,348	08/03/2006	Patrick A Watts	5647-001	8664
24112	7590	07/20/2007	EXAMINER	
COATS & BENNETT, PLLC 1400 Crescent Green, Suite 300 Cary, NC 27518			SELF, SHELLEY M	
ART UNIT		PAPER NUMBER		
3725				
MAIL DATE		DELIVERY MODE		
07/20/2007		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

ED

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/588,348	WATTS, PATRICK A
	Examiner Shelley Self	Art Unit 3725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 03 August 2006.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-16 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-16 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 03 August 2006 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>8/3/06</u> .	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ 5) <input type="checkbox"/> Notice of Informal Patent Application 6) <input type="checkbox"/> Other: _____
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## DETAILED ACTION

### *Drawings*

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, *the radius of the rotor varies around the circumference* (clm. 5), *the polygon shape is irregular* (clm. 7), *the slots are arranged in diametrically opposed pairs* (clm. 10), *wherein at least one slot is angled away from the axis of rotation of the rotor* (clm. 14) and *each successive slot in each series having an increased distance from the axis in the direction in which the rotor rotates* (clm. 15) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Additionally new, corrected drawings are required due to poor legibility and clarity of the drawings.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be

notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With regard to claims 1 and 4, the recitation, "its" is not clear as it is not clear what "its" refers to; Examiner suggests clear and positive recitation of what structure "its" is referring. For example is "its" the main body, the planar surface or the cutting face?

Additionally regard claims 1 and 4, the recitation, "for in use" are intended use recitations and do not positively recite any structural limitations within the claims. Such are functional and without any structural limitations positively recited to carry out the functional language such is not given patentable weight.

With regard to claim 3, Examiner notes the rotor has not been positively defined and is recited only in an intended use functional recitation. Therefore, the recitation to a plurality of through holes in the rotor does not find proper antecedent basis as no rotor has been positively recited. Examiner further notes the claimed invention as recited in the parent claims is drawn to a tooth, not a rotor and tooth combination. Accordingly structure to the rotor as recited in claim 3 is outside of the originally defined scope of that invention stated in the parent claim 1.

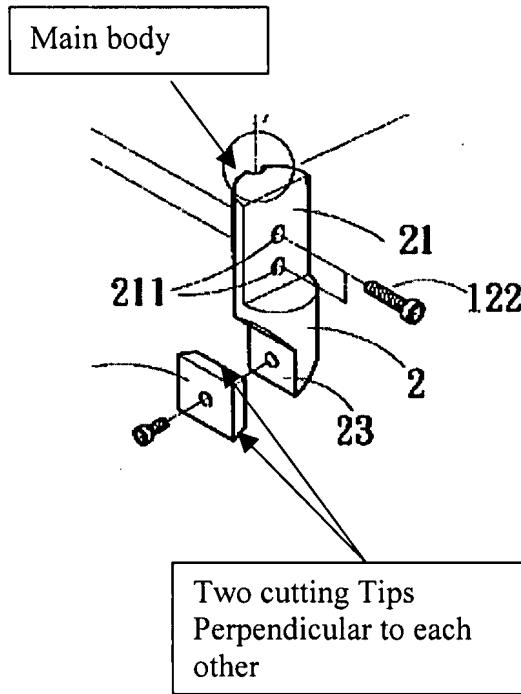
***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

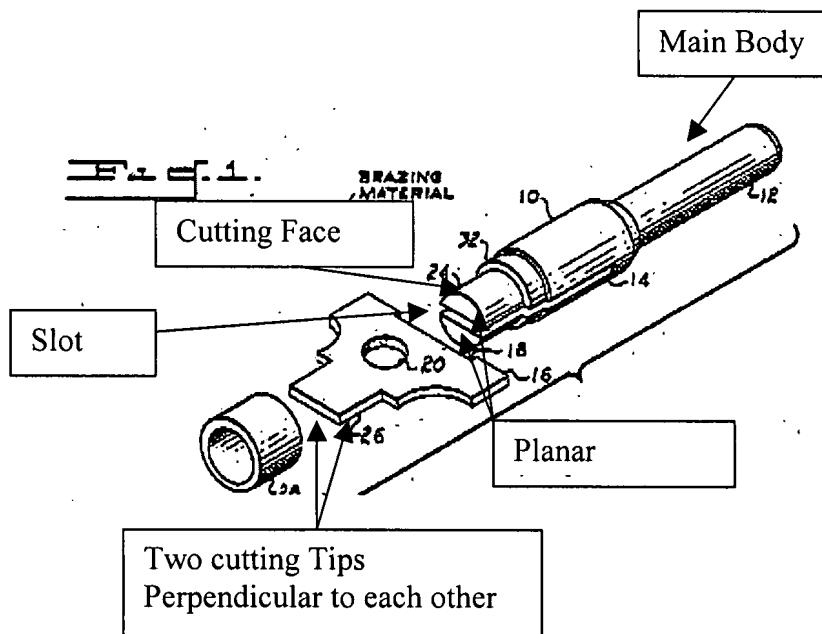
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4 and 16 as best as can be understood are rejected under 35 U.S.C. 102(b) as being anticipated by Sun (6,640,853). Sun discloses a tooth comprising a main body (fig. 1), at least one cutting face connected to and extending away from the main body; wherein the cutting face includes at least two tips, which are perpendicular to each other (fig. 1) and through holes (fig. 1).

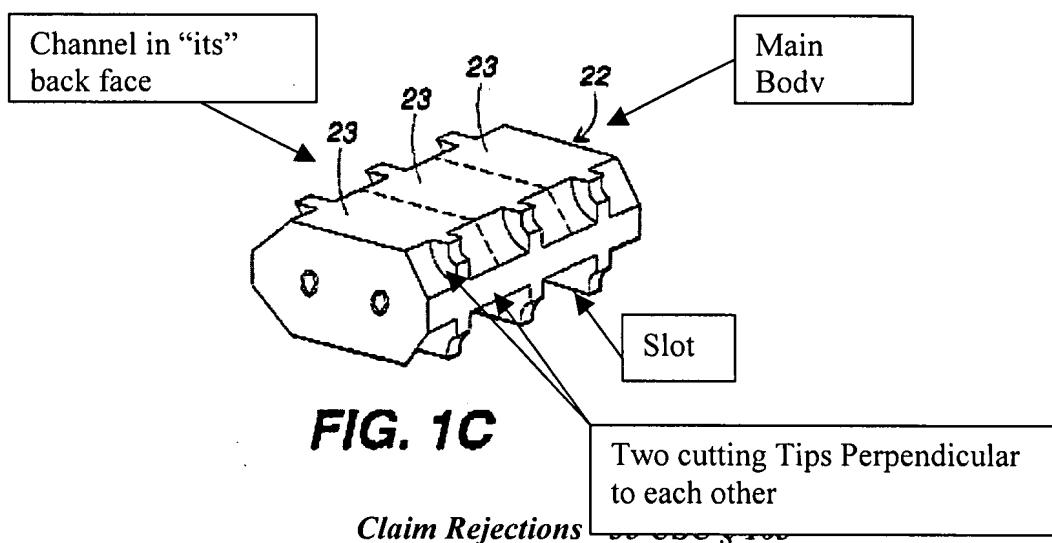


Claim 1 as best as can be understood is rejected under 35 U.S.C. 102(b) as being anticipated by Hollien (2,934,113). Hollien discloses a tooth comprising a main body (12, fig. 1), at least one cutting face connected to and extending away from the main body (fig. 1);

wherein the cutting face includes at least two tips which are perpendicular to each other (16; fig. 1).



Claims 1, 2 and 4 as best as can be understood are rejected under 35 U.S.C. 102(b) as being anticipated by Leguin (5,649,578). Leguin discloses a tooth comprising a main body (fig. 1A, 1B, 1C), at least one cutting face connected to and extending away from the main body (fig. 1A, 1B, 1C); a slot (fig. 1C) wherein the cutting face includes at least two tips which are perpendicular to each other (fig. 1C) and a channel.



The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 as best as can be understood rejected under 35 U.S.C. 103(a) as being unpatentable over Sun (6,640,853) or Leguin (5,649,578). Neither Sun nor Leguin disclose the radius of the rotor varying around the circumference. It would have been obvious to the skilled artisan at the time of the invention to construct either Sun or Leguin having a rotor with a radius that varies around the circumference because determining the optimal value of a result effective variable (i.e., the radius) involves only routine skill in the art. See *In re Boesch*, 617 f.2d 272, 205 USPQ 215 (CCPA 1980).

Furthermore, Examiner notes Applicant has failed to positively recite any criticality as it relates to a varying radius of the rotor. In the absence of any positively stated criticality to radius

variances, such would result from routine engineering and practices and does not in itself warrant patentability.

***Allowable Subject Matter***

Claims 6-15 appear to be objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if any 35 U.S.C. 112 rejections were overcome.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shelley Self whose telephone number is 571-272-4524. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on 571-272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



/Shelley Self/  
Primary Examiner  
Art Unit 3725

July 17, 2007